

arriving at said driver's eyes via a reflection from a back-up mirror, said back-up mirror physically positioned with mounting means inside said vehicle's passenger compartment in a region generally aft of said vehicle's driver's seat row and generally forward of said rear-facing window opening, said back-up mirror aimed generally horizontally and aimed generally toward a side of said vehicle and, more particularly, said back-up mirror aimed in relationship between said driver's eyes and said physical region in the lane of cross-traffic,

whereby said driver sees a view of said physical region and any oncoming cross-traffic objects it may contain, which information is needed at the moment of deciding the safety of driving in reverse into said lane or lanes of cross-traffic.

Contd

A2 Please add the following dependent claims:

5. The back-up mirror system of claim 3 wherein said back-up mirror mounting location is on a side pillar of said passenger compartment, which side pillar separates an opening for a side-facing window from an opening for a rear-facing window.

6. The back-up mirror system of claim 3 wherein said back-up mirror mounting location is on or substantially near an edge of a rear-facing window, which rear-facing window is substantially forward of said vehicle's rear end.

The Applicant has chosen the title to emphasize the novelty of the invention.

By the above amendments, the Applicant has expanded the BACKGROUND of the Specification and supplied revised claims to define the invention more particularly and distinctly so as to overcome the technical rejections and define the invention patentably over the prior art.

Claim Rejections under 35 USC §112

The (cancelled) claims 1 and 2 were objected to under 35 USC §112 as being indefinite, having recited "suitable" mounting means for the mirror(s). The Applicant requests reconsideration and withdrawal of this objection since the word "suitable" is no longer present in any claim.

Claim 2 was objected to as being an improper method claim for not having active method steps. The Applicant requests reconsideration and withdrawal of this objection due to rewording of (cancelled) claim 2 as contained in Claim 4 in the amendment above.

The rejections of Claims under 35 USC §102(b) on

Jackson, Yue, and Rubin are Overcome:

The Office Action dated March 20, 2002 rejected Claims 1 and 2 as being anticipated by Jackson, Yue, and Rubin. The Applicant is glad to learn of these other mirror systems for vehicles. The Applicant demonstrates below that the problem being solved by the current invention has not been recognized in these prior art devices whose physical parts and structures solved other needs and taught away from solving the current problem. The Applicant demonstrates below that

the structure of the current invention is novel and has not been recognized or anticipated in prior art.

The claims have been rewritten as amended herein to define patentably over these references (Jackson, Yue, Rubin) and any combination thereof.

The Applicant requests reconsideration and withdrawal of the Claims Rejections 35 USC §102(b) on Jackson, Yue, and Rubin for the following reasons:

1. The prior art do not show all of the novel physical features of the Claims.
2. The novel physical structure of elements in the current invention produces new and unexpected results and hence are unobvious and patentable over these references.

The References and the Differences of

the Present Invention Thereover:

Prior to discussing the Claims, the Applicant will first discuss the references and the general novelty of the present invention and its unobviousness over the references.

Jackson: As partly described in the above amendment adding sentences to the Applicant's Specification's "BACKGROUND", the device of Jackson teaches a driver of a vehicle to use two mirrors whose physical mounting positions and reflecting relationships and resulting physical structure of elements allow a backing-up driver to view an image of close-by physical objects located in that physical region closeby to the right of the driver's own rear bumper, positioned within 1 and 2

feet of the driver's own rear bumper, positioned substantially below the height of the mounting position of the rear reflecting element. The device of Jackson is a parallel-parking mirror device. Jackson teaches how to see a view of nearby stationary objects that cannot be directly viewed due to the driver's own vehicle blocking the view. The structure of Jackson teaches a reflecting means be mounted at the rear-end of the driver's vehicle, either outside or inside a rear-end window, then aimed in a reflecting relationship with the other elements to permit an image to be seen of that specific physical location (region) which sometimes contains an adjacent rear-bumper element which is physically located approximately on the same transverse line to the curb as the driver's own rear end. The important difference is that the structure of Jackson teaches away from mirror reflecting relationships and physical positioning of elements which would allow a driver to view that physical region positioned 3 to 40 feet away from the driver's rear bumper, which also lies in that lane of cross-traffic which passes behind the driver's rear bumper. The device of Jackson teaches physical positioning of a mirror at the rear end of the vehicle, or, as shown in Jackson's Fig.2, inside a rear-facing window which is itself substantially at the rear end, "fixed at the rear of the vehicle". The physical structure in the device of Jackson relies on that physical element which is: the physical region positioned 1 to 2 feet to the right of the driver's own rear end. Jackson also teaches a structure whose mirror at the rear of the vehicle is aimed generally downward from

horizontal, in addition to being aimed generally towards the right side of the vehicle and generally partly forward. The structure of Jackson is not capable of aiding a driver to view oncoming cross-traffic. The present invention teaches a physical structure and mirror alignment relationship which does not rely on the physical region located 1 to 2 feet transverse to the right of the driver's own rear bumper, it relies on an element whose physical position is that region located 3 to 40 feet away from the driver's vehicle which is also lying within that lane of cross-traffic which passes behind the driver's rear end, namely, the physical location where dangerous oncoming objects may be traveling, which could soon collide with the driver's vehicle if it is backed into the lane of cross traffic, which structure does not teach a generally downward-aiming of the back-up mirror element. The structure of Jackson does not rely on any physical element lying 3 to 40 feet away from the driver's vehicle. The structure of Jackson does not rely on a reflecting element positioned aft of the driver being aimed generally horizontally. Jackson does not suggest modifications which allow a backing-up driver to see an image of possible oncoming moving objects physically located 3 to 40 feet away from the vehicle which are travelling in the lane of cross traffic. Jackson does not suggest structural modifications which allow a backing-up driver to view objects whose direct visibility is blocked by an adjacent external object such as a fence, garage wall, or adjacent parked mini-van. In other words, the present back-up mirror system teaches a new structure having new physical and optical

relationships between its elements: reflecting elements, vehicle elements, the driver's eyes, and the physical region in the lane of cross-traffic. The present invention relies on its back-up mirror to be positioned generally aft of the driver's seat, such as near an edge of a rear-facing windshield, which, in passenger vehicles, is often substantially removed from the rear end of the vehicle, as with passenger sedans having a trunk lid aft of its rear-facing window, which physical position is not taught or suggested by the device of Jackson. The present invention solves a different problem than the device of Jackson, and such different problem is recited in the claims. The present invention does not rely on a mirror element fixed at the rear end of the vehicle whose reflecting relationship results in its being aimed simultaneously downward-from-horizontal, forward, sideward. The present invention teaches a novel reflecting relationship and mirror positioning whose structure includes that physical region in the lane of cross-traffic passing behind the driver's vehicle but 3 to 40 feet away, in order to solve the growing safety problem caused by adjacent SUVs and mini-vans which block a driver's direct view of that region of cross-traffic just before the driver backs up into the lane of cross-traffic. The physical features claimed in the present back-up mirror system and back-up mirror method have herein been recited more narrowly to distinguish their novelty over prior art.

Yue: The adjustable mirror support of Yue teaches an assembly of moveable parts including a sucker (suction cup), links, gears, and swivel-ball. An embodiment in Yue's FIG.4 illustrates a mirror as being physically positioned inside a passenger car, mounted to a rear-door's window (a side-window of a second row of seating), at a location and reflection angle for use by passengers in the rear seat of a vehicle, solving the problem of rear-seat passengers who cannot make use of the image in the driver's rear-view mirror for viewing themselves. The device of Yue does not teach the driver where to physically position a sideward-aiming mirror inside the vehicle for the driver's own use, nor teach a reflecting element for a driver to view any image of physical objects. While the system of Yue shows a rear window position, it turns out that Yue does not show a "rear-facing window"; the semantics in the applicant's amended claims are chosen to recite more clearly the physical features of the claimed invention. The present back-up mirror system does not rely upon rear-seat passengers' eyes, nor rely upon a rear-door's side-facing window, nor rely upon a support arm mechanism with sucker mounting. The device of Yue does not anticipate the physical structure resulting from the alignment and relative positioning of the applicant's system of elements: a Driver's eyes, vehicle compartment elements, a rear-view mirror, a back-up mirror, and that physical region located 3 to 40 feet away from the vehicle's rear bumper which is also lying in that lane of cross-traffic outside and passing behind the vehicle which possibly contains oncoming objects. The O. A. did not present

reasoning to establish whether Yue rendered obvious or suggested the structure of the elements of the present invention. The present invention teaches a novel reflecting relationship and mirror positioning whose structure of elements includes the driver's eyes and that physical region in the lane of cross-traffic passing behind the driver's vehicle which is lying 3 to 40 feet away.

Rubin: The optical system of Rubin teaches a driver to use two interior mirrors, a vehicle roof, and mirror alignments relative to a rear-seat, whose structure allows the driver to view a specific physical region or area of a rear-seat located inside the driver's vehicle. Rubin teaches a forward-facing mirror be aimed generally towards the front of the vehicle, also aimed generally downward from horizontal, being physically mounted and positioned onto a roof structure at a physical location substantially removed from the rear window of the vehicle, namely, generally above the laps of the second-row passengers. Rubin also teaches a passenger in the rear seating row to view their own reflection in the forward-facing roof-mounted mirror by swiveling or physically re-aiming the forward-facing mirror to generally aim towards a side of the vehicle, and aiming generally downward from horizontal, but whose physical mounting location is still substantially removed from the rear-facing window of the vehicle. The optical system of Rubin does not teach or suggest a driver's use of a structure which includes a generally sideward aiming mirror for viewing any object. Rubin does not teach a structure in which relative positioning of elements rely on any physical object

positioned outside of the vehicle. The structure of the present invention does not rely upon a roof structure element, nor rely on a side-ward aimed mirror's physical mounting position which is positioned above the laps of those passengers in the second row of seating.

The language of the amended claims:

Claim 3 is an amended version of the cancelled Claim 1. The Applicant's claims 3, 4, 5, and 6 are now worded to recite numerous distinguishing physical elements and novel structure over the references:

- the present back-up mirror mounting position is not fixed at the rear end of the vehicle, rather, "generally forward of said rear-facing window opening";
- the back-up mirror element is not aimed generally downward from horizontal, rather, "generally aimed horizontally";
- the present structure does not include a physical element positioned 1-2 feet away from the vehicle, rather, "a physical region defined as lying in a lane of cross-traffic passing behind said vehicle's rear-end, also lying 3 to 40 feet away from said vehicle";
- the present invention does not rely on passengers' eyes;
- the present invention does not rely on a rear-door's side-ward facing window, rather, "a rear-facing window opening";
- the present invention does not rely on a roof structure above passengers' laps;

-the present invention does not teach a driver's eyes to view elements inside the vehicle.

Withdrawal of the rejections under **35 USC § 102(b)** of the claimed back-up mirror system and claimed back-up mirror method on Jackson, Yue, and Rubin appears in order and is respectfully requested.

In view of the above reasons, it is submitted that claims 3-6 herein are allowable and the Applicant respectfully requests a response to such effect.

Prior Art previously not relied upon:

The first O.A.'s "**CONCLUSION**" had cited prior art which were previously not relied upon. The Applicant intends to provide reasoning herein that the solution to the problem being solved by the current invention relies on a novel structure which has not been recognized in prior art, and although the devices of Guthrie and Bracamonte do address visibility problems of a backing-up driver, they do not teach a structure having a back-up mirror element mounted both inside the passenger compartment of the vehicle, located generally aft of the driver's seat row, and aimed generally sideward and horizontally.

The Applicant submits that there are numerous prior art structures which include the use of mirrors to improve safety while driving vehicles by providing additional views to the driver, making it a crowded art.

The following three references did not show the present invention nor render it obvious:

Guthrie: The device of Guthrie teaches a backing-up truck driver to look through an aperture in the roof structure. The driver views an image of the 'first mirror' (which is physically positioned both outside the vehicle and behind the rear of said vehicle; angled both relatively downwards to face towards the bottom opening of a channel member and angled forward-facing) via its 'rear-facing plane mirror' (which is physically positioned both outside the vehicle and above the roof structure's aperture). The device of Guthrie is a structure to aid the backing-up driver to view objects located in a physical region positioned directly rearward of the motor vehicle by using mirror elements which are positioned and mounted entirely outside and above the vehicle's operator compartment, with one mirror is physically aft of the rear-end of the vehicle. The structure of Guthrie does not teach the driver to make use of a standard rear-view mirror found inside a passenger vehicle near its front windshield located in front of the driver. The structure of Guthrie does not rely on a generally side-ward aimed mirror located inside the passenger compartment generally behind the driver's seat row, nor a generally-horizontally aimed mirror. Guthrie's preferred embodiment teaches a physical structure whose relationship between the elements (the driver's eyes, the aperture in the roof of the vehicle, the two external mirrors, and that physical region located 0-12 feet behind the truck, extending the width of the truck) provide a view of the objects which might lie

directly behind the truck. The structure of Guthrie does not rely upon the rear-facing window opening(s) of the passenger compartment nor upon the physical region lying 3 to 40 feet away from the driver's vehicle lying in the lane of cross-traffic. The device of Guthrie does not teach modifications which provide a driver with an image of the physical region in the lane of oncoming cross-traffic which lies 3 to 40 feet away from the vehicle. The present invention does not rely on an aperture element in a roof structure. The present invention does not rely upon any mirror element physically positioned outside the vehicle passenger compartment. The present invention does not rely upon a mirror mounting position located behind (aft of) the rear end of the vehicle.

Harris, Jr.: The apparatus of Harris, Jr. teaches a mirror be mounted near a rear-facing window opening of a vehicle, aimed to face generally towards both the front of the vehicle and aimed partly downwards-from-horizontal, namely, towards the physical region where passengers are seated in the rear rows of a bus, inside the bus. Harris, Jr. teaches a structure which allows a driver to view an image of objects physically located inside the vehicle using an adjustable-angle mounting apparatus for physically mounting its forward-and-downward aimed mirror element, physically positioned and mounted generally behind the driver but above the heads of the passengers in the rear-most rows of a multiple-row vehicle such as a passenger bus. The apparatus of Harris, Jr. teaches away from a mirror method or mirror system to allow the driver to view element(s) whose physical

location is positioned outside the vehicle. The present invention does not rely on structure containing a generally forward-facing mirror element nor a generally downward-aimed mirror element. The present invention does not teach a mirror element be aimed relatively downward toward the floor of a vehicle. The present invention does not rely upon the physical presence of multiple rows of rear seats inside the vehicle, nor solve any problem arising from those multiple rows. The device of Harris, Jr. does not suggest any structure to provide a driver with an image of the physical region in the lane of oncoming cross-traffic which lies 3 to 40 feet to a side of the driver's vehicle.

Bracamonte: To provide additional rear- and side- vision views for a driver, the mirror assembly of Bracamonte teaches a mirror be attached to an assembly located outside the passenger compartment wherein the driver views a single mirror physically positioned generally in front of the front windshield and outside the vehicle's passenger compartment at a height above the driver's eyes' height, being supported by an extendible mast reaching above the roof of the vehicle, whose mirror surface is generally angled towards the rear of the vehicle. While the device of Bracamonte attempts to solve a similar problem to the present invention, namely, allowing a backing-up driver to see around an adjacent obstruction which blocks a driver's unaided view of a certain physical region located outside of the vehicle, the structure of Bracamonte does not teach a structure which relies on a mirror element physically positioned in a location

generally aft of the driver's seat row, nor rely on a mirror element inside the passenger compartment. The present invention does not rely on physically positioning any mirror element at a height above the roof of the vehicle. The present invention does not rely on any mirror element being physically located outside of the passenger compartment, nor located in front of the front windshield of the driver.

Declaration of Commercial Interest being shown:

In support of the novelty of the present invention, the Applicant declares that commercial interest has been shown to the Applicant in this Back-Up Mirror System. Two car manufacturers' letters are attached as exhibits:

(a) General Motors' WWP-Advance Purchasing, October 29, 2001 correspondence to Applicant indicating their Preliminary Review Board has approved the applicant's Back-Up Mirror System Suggestion to next undergo initial technical evaluations by the General Motors' Body Product Center of Warren, Michigan, and

(b) Ford Global Technologies, Inc.s' Consumer Innovation Office correspondence from Dearborn, Michigan, February 14, 2002 to Applicant indicating their Vol 2, Issue 8 consolidated report of suggestions contains the applicant's Back-up Mirror suggestion to next undergo evaluation by Ford Specialists regarding cost and improvement upon current technology.

Conclusion:

For all of the above reasons, the Applicant submits that the claims are now in proper form, and that the claims define patentably over prior art. Therefore I submit that this application is now in condition for allowance, which action I respectfully solicit.

Conditional Request for Constructive Assistance:

The Applicant has amended the specification and claims of this Application so that they are proper, definite, and define a novel structure which is also unobvious, and which meets an unsolved need.

If, for any reason, this application is not believed to be in full condition for allowance, the Applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to MPEP §2173.02 and § 707.07(j) in order that the undersigned can place this application in allowable condition as soon as possible and without the need for further proceedings.

Very Respectfully,

William L. Morrison

William L. Morrison

Applicant Pro Se

Attachments: 2 sheets

Certificate of Mailing:

I certify that on the date below this document and

referenced attachments will be deposited with the US Postal Service as Express Mail in an envelope addressed to :

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2002 May 30

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